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(54) Title: SILK-BASED FIBRE

(57) Abstract: The invention relates to a novel process for preparing a solution of silk or silk-like protein from a variety of potential sources, and spinning it to produce a reformed silk fibre for biomedical and other uses. The silk is pre-dissolved to form an amorphous powder, then re-dissolved in a mixture of dichloroacetic acid with either chloroform or dichloromethane, to form a homogenous silk fibroin solution for spinning. By controlling spinning and drawing conditions, and by appropriate chemical modification, fibres with a variety of mechanical and biological properties can be formed. Such fibres can have an extended or shortened biostability in the human body, and are suitable for implantable devices such as absorbable artificial ligaments and engineering matrices, drug delivery implants, and many other uses.